

VIBLOCK STACK BONDED BRICK CLADDING SYSTEM – SPECIFICATION VB-S2

TWO-STOREY STACK BONDED SPECIFICATION

PRELIMINARY

This document is a bricklaying specification used for the construction of two-storey, running-bonded brick veneers. It is an 'Alternative Solution' to E2/AS1 applicable only when Viblock concrete bricks, as mentioned in this document, are used in a two-storey stack bonded masonry brick veneer. This document is to be read in accordance with the pre-requisite specification VB-B1. Items not covered in this specification must comply with the general bricklaying specification for Viblock concrete bricks, Specification VB-B1.

Should a requirement in this document conflict with VB-B1, this specification, Specification VB – S2, is to apply.

DESIGNER

The 'Architectural Designer' is responsible for ensuring that the brick veneer, as detailed on the Building Consent Plans and Specification, complies with all aspects of this 'Specific Design'.

The designer must clearly mark on the plans submitted for Building Consent – '*Viblock Stack Bonded Brick Cladding System – Specification VB-S2*' – no substitution.

DESIGN LIMITATIONS

The Viblock single two-two-storey stack bonded brick veneer shall be subject to the limitations outlined in Specification VB-B1 and VB-S1 with the following exceptions:

- Bricks must be laid in a stack bond pattern.
- Up to a 3kPa floor loading.
- A maximum of two-storey construction.
- The scope limitations of NZBC Acceptable solution E2/AS1 Paragraph 1.1 in terms of floor area.
- A risk score of 0 – 20, calculated in accordance with NZBC Acceptable Solution E2/AS1 Table 2.
- Where timber studs are used as the support structure, a maximum stud spacing of 400mm shall apply.
- Maximum veneer height of 7.0m for straight vertical panels and 9.0m to the apex of a gable or a pier as defined in this document, in accordance with Figure 1.

Bricks

This specification is only applicable to the following brick types manufactured by Viblock:

Table 1 – Viblock – Bricks applicable to this specification

Bricks applicable to this specification				
Viblock Brick Product	Size (LxHxW)	No/m ²	Weight (kg) Per brick	Weight (kg/m ²)
Dunstan	220 x 136 x 70mm	33	3.6	125
Shotover	220 x 73 x 70mm	60	1.9	120

Note: Table 1 includes a 4% allowance for wastage in the number of bricks per m², for ordering purposes

BRICK VENEER CONSTRUCTION

Maximum Veneer Heights

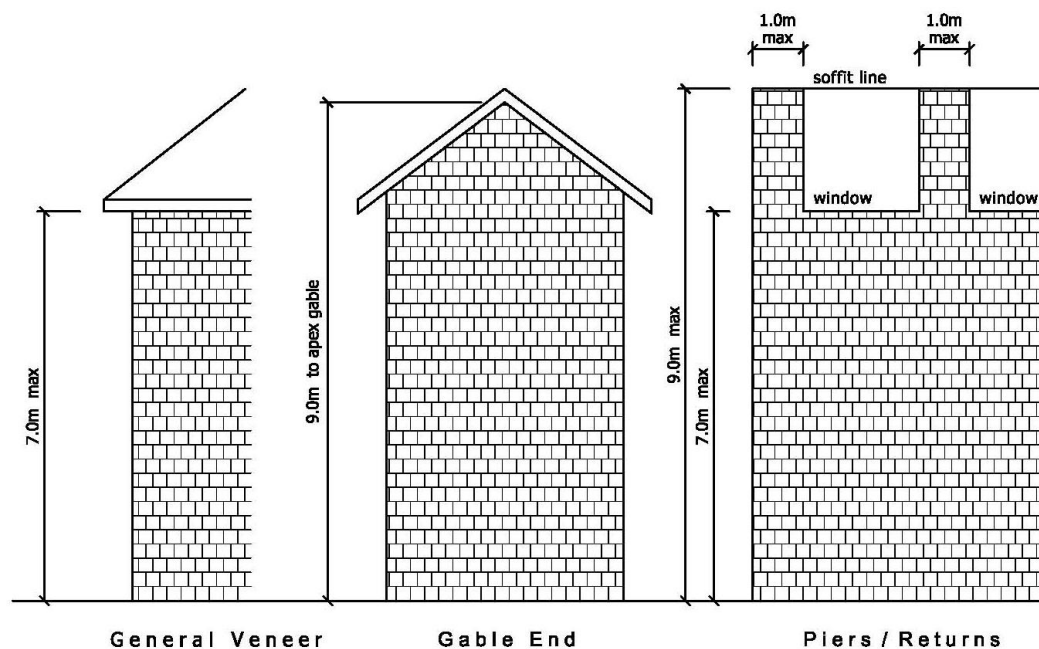


Figure 1 – Maximum Veneer Heights for two-storey stack bond construction

Panels

- The bricks may be laid in one panel to a maximum height of 7.0m. No slip joints or shelf angles are necessary.

Gable Ends and Piers

- The brick veneer can be laid to a maximum height of 9.0m with a gable end.
- A pier is defined as a brick panel not exceeding 1.0m in width and not supporting a brick steel lintel in any way. A pier must not exceed 9.0m in height.

Supporting structure

Timber Framing

If the brick veneer is supported by timber framing, the framing must be constructed in accordance with NZS 3604 to a maximum stud spacing of 400mm crs.

Concrete/Pre-cast Panels

If the brick veneer is supported by concrete or pre-cast panels, these must be constructed in accordance with NZS 4229. Alternatively, a masonry or concrete support may be designed by a suitably qualified engineer.

Bracing

Bracing requirements of walls may be calculated using the prescribed tables in NZS 3604 or by a suitably qualified engineer.

Brick Cavity

The cavity shall comply with the requirements noted in Specification VB-B1.

Mid-floor

Where practical, steel should be specified for mid-floor beams, as steel will have less overall creep, thus reducing the differential movement within the structure. This will in turn lower the chance for damage to the veneer.

Brick Ties

Brick ties shall comply with the requirements noted in Specification VB-B1, with the exception of the spacing requirements outlined below:

Brick tie spacing

Brick ties are to be fixed horizontally to studs at a maximum spacing of 400mm, and vertically depending on the height of the brick as per table below.

Table 2 – Brick ties spacing

Placement of Brick ties in Mortar Courses		
Viblock Brick Product	Height of Brick	Studs at 400mm crs.
Dunstan	136mm	Every 2 nd course
Shotover	73mm	Every 3 rd course

Joint Reinforcement

- Bed joint reinforcement shall be installed in bed joints spaced at 800mm crs \pm 100mm (depending on the brick height) over the height of the veneer.
- Bed joint reinforcement to be MASONS 4.0mm Bricklock STR and CNR galvanised or stainless-steel joint reinforcement, as appropriate for the site exposure zone (refer NZS 3604).
- Bed joint reinforcement is to be placed in mortar joints that do not contain brick ties.

Due to the wide variety of designs, location of windows, panel widths, roof configurations etc., it is not practical to be more specific where consideration should be given to installing joint reinforcement. However, the following rules should be applied:

- Bed joint reinforcement to be installed within 350mm of the top and bottom of the panel.
- Bed joint reinforcement to be installed within 175mm of head and sill of window/door openings, extending minimum of 2 bricks into the adjacent brick panel.

Lintels

Lintels shall comply with the requirements noted in Specification VB-B1, with the following exceptions:

- Seated lintels may only be used over openings in the upper level of a two-storey building.
- Seated lintels may not be used over a skirt roof (use of seated lintels over an opening above a skirt roof is permitted).

Shelf Angles

In addition to the requirements set out in Specification VB-B1, shelf angles may be installed above skirt roofs.

- The architect/engineer is to ensure an adequate support structure for fixing of the shelf angle.
- The maximum veneer panel height above a shelf angle over a skirt roof is to be 4m, measured as shown in Figure 2 below.

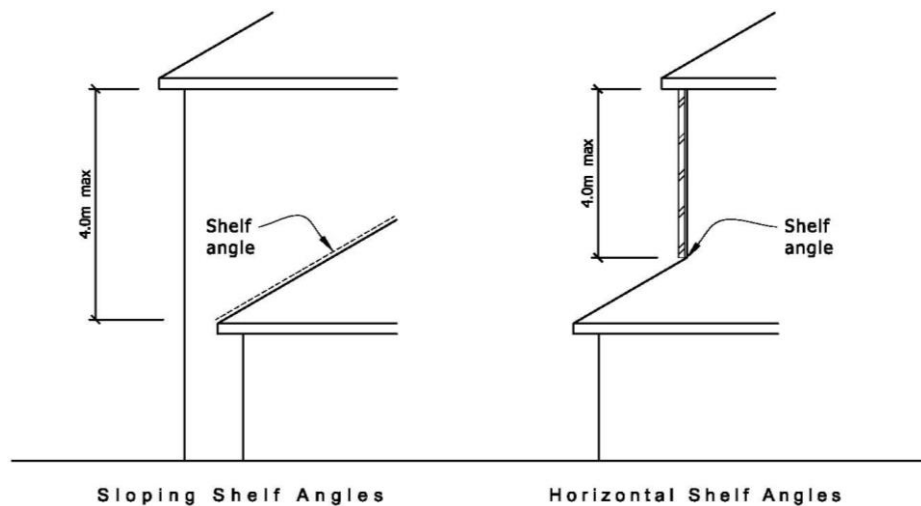


Figure 2 – Shelf Angles

TECHNICAL SUPPORT

Should you require any technical support on the Viblock Brick Veneer System, please contact Viblock on:

T: (03) 343 0394

Email: sales@viblock.co.nz

Website: <https://www.viblock.co.nz/contact-us/>